Environmental Community Letter

Lawrence Livermore National Laboratory

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May 1995

Environmental Report 1993 Issued

Lawrence Livermore National Laboratory's (LLNL's) *Environmental Report 1993* was released in December 1994 by the Department of Energy (DOE). The report summarizes the results of the Lab's environmental monitoring program and concludes that Lab operations do not threaten human health or the environment. The report also finds that the Laboratory is in compliance with local, state, and federal environmental regulatory requirements.

In preparation for writing this report, LLNL's Environmental Protection Department (EPD) studied the results of more than 190,000 analyses of environmental samples taken on and off the Lab site. EPD sampled air, soil, ground and surface water, tap water, rain, storm water runoff, waste water, sewer effluent, vegetation, and foodstuff. The samples were then examined to see if any trace of radioactivity and nonradioactive pollutants could be detected.

The analysis shows that the amount of radiation released from the Lab continues to be far below the regulatory limits set to protect the public. In 1993, radiation from the Lab was less than 1% of the Environmental Protection Agency (EPA) standard. The amount of radiation released was slightly higher in 1993 than in 1992 due to extensive radionuclide inventory reduction and clean-up activities in the Lab's tritium facility. However, the highest dose that an individual member of the public could receive was calculated to be slightly lower due to mild wind patterns in 1993.

Public Meeting on Building 834 Remediation Plan

The area designated *Building 834* is the first of six areas at the Lab's Site 300 for which a plan was developed for remediating traces of trichloroethylene (TCE) found in soil, rock, and ground water. The plan was discussed at a public meeting in Tracy, California, on Tuesday, January 24, 1995. Representatives from DOE/LLNL, the EPA, and the State of California discussed the proposed remediation plan and responded to questions and concerns from the public.

A 30-day public review and comment period on the Building 834 remediation plan began January 9 and ended February 9, 1995. Public comments will be addressed in the Record of Decision to be published later this year.

Site 300 Fact Sheet Number Two Distributed

The Site 300 Fact Sheet Number Two is now available. It summarizes the Site-Wide Remedial Investigation (SWRI) report issued by DOE/LLNL in April 1994 and describes the findings from 10 years of investigations at Site 300. The Fact Sheet also discusses the human health risk assessment, completed as part of the SWRI, which analyzes the potential health effects of the contamination found at Site 300. The Fact Sheet presents an updated schedule for submitting reports to regulatory agencies; defines study areas, operable units, and unassigned sites; and describes the progress of clean-up activities and upcoming environmental restoration activities. A copy of the SWRI is available at the Tracy Library and the LLNL Reading Room.

DOE Calls Lab's Internal Environmental Communications Exemplary

The Environmental Management Assessment, conducted last summer by DOE's Office of Environmental Audit, found LLNL's internal environmental communications exemplary. The report stated that all levels of Lab management and staff exhibited a high level of commitment to environmental excellence.

Several areas were singled out as "exceptional" by the DOE, including the Laboratory's emergency preparedness planning and response program, the Lab's internal communications program (for effectively conveying awareness of environmental issues), and the Lab's environmental planning program.

The report identified eight minor deficiencies having to do with DOE's organizational structure. Most of these had previously been identified by the Lab and DOE's Oakland Operations Office, and corrective actions have been planned or completed.

Big Trees Samples

The analysis of soil samples taken in January in Livermore's Big Trees Park indicates that plutonium in park soil samples is below the maximum allowable level for residential areas set by the EPA.

The soil samples were analyzed by the State Department of Health Services, the EPA, and the Laboratory, using a commercial lab under contract.

The investigation was undertaken after a soil sample taken from the park was analyzed by EPA and showed a level of 0.164 picocuries of plutonium per gram (pCi/g) of soil. This is less than 1/15th the EPA health concern level of 2.5 pCI/g but above expected global fallout levels for the area.

Soil samples from areas within and adjacent to the park were analyzed. Results indicate that 12 of the 15 areas sampled in or near the park have plutonium concentrations within global fallout levels for this region. Three areas showed higher levels of plutonium. One area outside the park showed values below global fallout. All of these higher values were below EPA screening levels.

The Laboratory plans to conduct a more detailed investigation in the three areas noted above. The additional sampling will seek to better define the boundaries of these areas, according to Bill McConachie, head of the EPD's Environmental Restoration Division.

DOE Reconfiguration Program Update

The DOE Reconfiguration Program is continuing to expand its public involvement activities by encouraging the public to review the National Environmental Policy Act. The Program has established an "800" number (800-776-2765) that the public may use to register comments.

Decontamination and Waste Treatment Facility (DWTF)

The DOE has announced Key Decision One, authorizing the preliminary design for the DWTF. The purpose of the facility is to characterize, treat, and store mixed waste (a combination of hazardous and radioactive wastes). The project will eventually include the design and construction of seven new buildings, totaling approximately 115,000 square feet. The buildings will be sited on 9 acres located in the northeast sector of LLNL, an area that also contains Building 693, a facility operated by the Hazardous Waste Management Division of EPD. The proximity of the building to the DWTF may result in some useful consolidation of functions in the future.

The DWTF will provide the Lab with the ability to:

- Open radioactive and mixed waste containers to characterize, decontaminate, and certify them. The contents will then be repackaged and shipped.
- Conduct waste treatment and storage activities in accordance with current and impending regulatory requirements and DOE standards.

The DWTF replaces limited-use facilities with a modern, integrated complex that will provide a long-range solution to LLNL's and DOE's hazardous, radioactive, and mixed waste management problems. The appropriate permitting and public participation requirements are being determined.

The FY95 Plan for the Mixed Waste Management Facility (MWMF)

The MWMF is a national test bed whose purpose is to demonstrate alternatives to incineration for the disposal of mixed waste. Successful technologies will be made available to other DOE sites as well as to commercial organizations.

The FY95 Plan for the MWMF was released in December 1994 by the DOE. The Plan calls for a pilot demonstration facility to be built on the LLNL site and outlines the following objectives for FY95:

- Complete the preliminary design of the major systems of the MWMF.
- Begin the final design of the major systems.
- Issue Project Baseline, Revision 2, to address the technical, operational, permitting, and scheduling issues involved with housing MWMF in one of the buildings comprising DWTF. This co-housing step will help to cut the costs of MWMF substantially.
- Complete necessary environmental permit applications.
- Complete implementation and documentation of management control systems.

The above objectives will help the Laboratory meet the DOE directive to cut the budget as much as possible. So far, the Laboratory has pared the original estimate from $16.5 million to $7.6 million, a reduction of 54%.

New Ground Water Treatment Facility D

Treatment Facility D, the Laboratory's newest ground water treatment facility, was dedicated late last year with representatives from the offices of Congressman Bill Baker, Laboratory Director Bruce Tarter, and the DOE in attendance.

The treatment facilities are part of an extensive DOE/LLNL clean-up plan to treat ground water contaminated with solvents released to the ground when the site was a U.S. Navy pilot training and engine overhaul facility and during subsequent Lab use of the property. The solvents are commonly referred to as volatile organic compounds, or VOCs.

Currently, there are five treatment facilities on site. Treatment Facility A, located at the southwest corner of the Laboratory, prevents further off-site migration of contaminants by capturing the ground water which has moved off-site. Treatment Facilities B, C, and D currently treat on-site ground water only, helping prevent further spreading of the VOCs. Treatment Facility F treats both contaminated ground water and soil to remove gasoline that leaked from an underground fuel tank.

The newest facility extracts the contaminated water from the ground, first passing the water through an air-stripping process. This process releases the VOCs into a contained air stream that passes through granular activated carbon to remove the contaminants. The carbon is later disposed of as a waste product. The facility is capable of treating 70 gallons of water per minute.

Environmental Tour

The EPD offers a comprehensive, three-hour tour of the Laboratory's environmental activities. Held on the third Thursday of every month, the tour includes: a ground water treatment facility, the sewer diversion facility, the hazardous waste yard, the drainage retention basin, the Nova laser, a protected and endangered species presentation, and the recycling areas. The tour is also available for small groups, but please call at least two weeks in advance to register. For more information, please call Kristin Giller at (510) 424-2580.

Questions or Comments

If you have questions or comments, or if you would like more information about LLNL's Speaker's Bureau and the environmental tour, or if you wish to be included on the mailing list for DOE/LLNL environmental projects, please call or write:

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And please let us know what you think of the *Environmental Community Letter*.

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Community Relations
Environmental Protection Department

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